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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,463	11/26/2003	Randall A. Greene	2057/149	8127
23338	7590	04/03/2006	EXAMINER	
DENNISON, SCHULTZ, DOUGHERTY & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314			MANCHO, RONNIE M	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,463

Applicant(s)

GREENE, RANDALL A.

Examiner

Ronnie Mancho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/5/05; 11/26/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Status***

1. This is a first action in response to the application filed 11-26-03.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, "the type" is indefinite. Claims 8 and 9 are rejected for depending on rejected claim 7. See MPEP 2173.05 (b)E

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the

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time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara (US 2002/0080145 A1) in view of Greene et al (6002348).

Regarding claim 1, Ishihara (abstract, figs. 4, 13-15, 17-21) discloses an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, said system comprising:

a visual display 36 (fig. 1B);

means 22 including a GPS receiver (fig. 1A) for providing data indicative of a position of a aircraft, the altitude of the aircraft and the course of the aircraft (fig. 2);

a computer (fig. 2) for providing a moving map data indicative of a topography of an area surrounding the position of the aircraft (sec. 0038-0042);

means 22 including said computer (fig. 22) for determining a flight hazard zone within a first preselected distance from the aircraft and based on the altitude of the aircraft (fig. 4, 6, 13-15) and for generating a first color display (figs. 19-21) of the first hazard zone based on the moving map data;

means including said computer system for detecting a more dangerous zone (fig. 4, 6, 13-15, 19-21) within a second preselected distance from the aircraft

which is less than the first preselected distance from the aircraft and based on the course and altitude of the aircraft and for generating a second color display of the more dangerous hazardous zone based on the moving map data to warn a pilot of the more dangerous zone (sec 0115-0119);

means for detecting a physical obstacle within a third preselected distance from the aircraft which is less than said first preselected distance from the aircraft (fig. 4, 6, 13-15, 19-21; sec 0115-0119).

Ishihara did not disclose “producing a series of audible clicks when said aircraft is within said third preselected distance from the physical obstacle and for increasing the frequency of the series of clicks”. However, Greene (col. 2, lines 7-11; col. 3, lines 43-49) teaches of an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, comprising means for producing a series of audible clicks when said aircraft is within a preselected distance from a physical obstacle and for increasing the frequency of the series of clicks as the aircraft approaches the physical obstacle.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ishihara device as taught by Green for the purpose of detecting particular hazards such power lines.

Regarding claim 2, Ishihara as modified by Greene disclose the airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle according to claim 1 which includes means for increasing (Green et al; col. 5, lines 5-10) the volume of the audible clicks as the aircraft approaches the physical object.

Regarding claim 3, Ishihara as modified by Greene disclose the airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle according to claim 2 which includes mute means (Greene et al; col. 2, lines 11-14) for muting the series of clicks.

Regarding claim 4, Ishihara as modified by Greene disclose the airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle according to claim 3 which includes means for overriding said mute means as the aircraft draws near to the obstacle.

Regarding claim 5, Ishihara as modified by Greene disclose the airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle according to claim 4 which includes an additional detection means (Greene, col. 3, lines 1-11) for detecting a dangerous obstacle within a preselected distance from the aircraft and for generating a signal indicative of a dangerous obstacle and when said aircraft is within a preselected

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distance from the physical obstacle and for increasing the frequency of the series of clicks as the aircraft approaches the physical obstacle in response to either the first means of detecting a physical obstacle or the additional detection means.

Regarding claim 6, Ishihara as modified by Greene disclose the airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle according to claim 5 in which said additional detection means is a low frequency radio receiver and antenna for detecting an AC signal of about 50 to 60 hertz (Greene col. 3, lines 1-11).

Regarding claim 7, Ishihara (abstract, figs. 4, 13-15, 17-21) discloses an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle of the type having:

- a visual display;
- sensors for providing data indicative of an altitude of the aircraft,
- a course of the aircraft and a position of the aircraft; a computer for providing a moving map data indicative of topography of an area surrounding the position of the aircraft;

- means including said computer for determining a first hazard zone within a first preselected area based on the course and altitude of the aircraft and for

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generating a display of hazards within the hazard zone based on the moving map data;

means including said computer for detecting a proximate hazard from among the hazards within the hazard zone at a predetermined distance from the aircraft; and

altering means for creating a visual change in appearance of proximate hazards in contrast to other hazards.

Ishihara did not disclose “producing a series of audible clicks when said aircraft is within said third preselected distance from the physical obstacle and for increasing the frequency of the series of clicks”. However, Greene (col. 2, lines 7-11; col. 3, lines 43-49) teaches of an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, comprising means for producing a series of audible clicks when said aircraft is within a preselected distance from a physical obstacle and for increasing the frequency of the series of clicks as the aircraft approaches the physical obstacle.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ishihara device as taught by Green for the purpose of detecting particular hazards such power lines.

Regarding claim 8, Ishihara as modified by Greene disclose the an airborne obstacle detector and warning system according to claim 7 wherein the improvement further comprises muting means for muting the audio signal.

Regarding claim 9, Ishihara as modified by Greene disclose the an airborne obstacle detector and warning system according to claim 8 wherein the improvement further comprises means for overriding the mute means when the distance between the aircraft and the proximate hazard decreases.

Regarding claim 10, Ishihara (abstract, figs. 4, 13-15, 17-21) discloses an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, said system comprising:

- a visual display;

- sensors for providing data indicative of an altitude of an aircraft, a course of an aircraft and a position of the aircraft;

- a computer for providing a moving map data indicative of a topography of an area surrounding the position of the aircraft;

- means including said computer for determining a hazard zone based on the course and altitude of the aircraft and for generating a display of hazards within the hazard zone based on the moving map data;

means including said computer system for detecting a proximate hazard from among the hazards within the hazard zone at a predetermined distance from the aircraft;

altering means for creating a visual change in appearance of a proximate hazard in contrast to others of the hazards.

Ishihara did not disclose “producing a series of audible clicks when said aircraft is within said third preselected distance from the physical obstacle and for increasing the frequency of the series of clicks”. However, Greene (col. 2, lines 7-11; col. 3, lines 43-49) teaches of an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, comprising means for producing a series of audible clicks when said aircraft is within a preselected distance from a physical obstacle and for increasing the frequency of the series of clicks as the aircraft approaches the physical obstacle.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ishihara device as taught by Green for the purpose of detecting particular hazards such power lines.

Regarding claim 11, Ishihara (abstract, figs. 4, 13-15, 17-21) discloses an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, said system comprising:

a visual display;

means including a GPS receiver for providing data indicative of an altitude of an aircraft, a position of the aircraft and a course of the aircraft;

a computer for providing a moving map data indicative of a topography of an area surrounding the position of the aircraft;

means including said computer for determining a first hazard zone within a first preselected distance from the aircraft based on the altitude of the aircraft and for generating a first color display of the first hazard zone based on the moving map data;

means including said computer for detecting a more dangerous zone within a second preselected distance from the aircraft which is less than the first preselected distance and for generating a second color display of the more dangerous hazard zone based on the moving map display to warn a pilot of the more dangerous zone;

means for detecting a physical obstacle within the second of said zones and within a preselected distance from the aircraft which is less than the distance of said first zone; and

Ishihara did not disclose “producing a series of audible clicks when said aircraft is within said third preselected distance from the physical obstacle and for increasing the frequency of the series of clicks”. However, Greene (col. 2, lines 7-

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11; col. 3, lines 43-49) teaches of an airborne obstacle detector and warning system for alerting a pilot of a rotary wing aircraft of the proximity of a physical obstacle, comprising means for producing a series of audible clicks when said aircraft is within a preselected distance from a physical obstacle and for increasing the frequency of the series of clicks as the aircraft approaches the physical obstacle.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ishihara device as taught by Green for the purpose of detecting particular hazards such power lines.

### Communication

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronnie Mancho  
Examiner  
Art Unit 3663

3/21/06  
~~12/12/05~~  
R-m.

JACK KEITH  
SUPERVISORY PATENT EXAMINER